From Seed To Plant

Performance Task

Introduction

You are a horticulturalist who owns a greenhouse. A horticulturalist is a person who grows plants and flowers for their daily job. Because you grow your plants and flowers in a greenhouse, you can grow plants all year long. In your greenhouse, you are planting seeds to grow seedlings. Seedlings are very small plants. You sell these seedlings to the local farmers who can plant them in their fields where they will they grow big and strong.

Big Idea / Essential Questions

Big Idea

- Living things depend on their habitat to meet their basic needs.

Essential Questions

- What is the role of the habitat in providing the basic needs of an organism?

G.R.A.S.P.

Goal

You and your friends want to create a small education center in your greenhouse so that children can learn the importance of plants.

Role

You and your friends are horticulturalists who own a greenhouse. Your greenhouse sells seedlings to local farmers. Many people also visit your place to buy things for their home and yard.

Audience

Your audience will be the people who visit your store.

Situation

You and your friends are horticulturalists who own a greenhouse. In a greenhouse, you can grow plants indoors all year long. Your group starts planting seeds in your greenhouses and provides young plants, or seedlings, to local farmers to plant in their fields. You also have a small store where you sell potted plants, books on how to grow things, and other items related to gardening. You have decided that you want to set up

a small educational area so children who visit your greenhouse can learn about plants and how they grow.

Products

1. Illustration

suggested starting product:

Illustrate a picture of a plant. Be sure to label it and give it a title.

- What is a plant?
- What plants grow in your home?
- Do you have plants in your classroom?

Illustration - From Seed To Plant

Achievement Levels	1	2	3
Illustration (x1)	Illustration and title are unclear and are not connected to the concept.	Illustration and title are somewhat clear and demonstrate minimal connection to the concept.	Illustration and title are clear and demonstrate some connection to the concept.

2. Scavenger Hunt

With the help of a family member, you are going to go on a hunt in your home to find all the items that are either plants or made from plants. Be sure to look for patterns. For example, what are most of your furniture items made from? Make a chart of all of the items that you found. Separate the chart into "plants" and "made from plants". How many total items did you find? Which category had more? How many more did that category have?

- What plants do you grow in your house?
- What plants do you use for cooking at your house?
- What products come from plants?
- What plant products can you find in your home?
- What plant products do you use most?

Scavenger Hunt - From Seed to Plant

Achievement Levels	1	2	3
Math (x1)	Student shows little understanding in organizing, and representing different information in categories.	Student shows some understanding by organizing and representing different information in categories.	Student shows excellent work in understanding, organizing, and representing different information in categories, including accurately expressing number of tens and ones in two digit numbers.
Science (x1)	Student demonstrates little understanding of the uses of plants and why plants are important to people.	Student demonstrates some understanding of the uses of plants and why plants are important to people.	Student demonstrates an understanding of the uses of plants and why plants are important to people.

Achievement Levels	1	2	3
Participation (x1)	Student shows little interest or leadership in home activity.	Student shows some interest and leadership in home activity.	Student shows interest and leadership in home activity.

3. Categories

As a class, make a chart that categorizes the items you found on your scavenger hunt. For example, look for items such as food, nuts, cosmetics, shampoo, or paper products. Did you know plants were in so many products? Look how many categories you may have. Count up the total items in each category, deciding how many tens and ones are the two digit numbers. Think about how important plants are to the way we live.

- What is a category?
- How do categories help to organize our information?
- How many categories will be on your chart?
- How many items are in each category?
- How can you show the items in each category as tens and ones?

Scavenger Hunt - From Seed to Plant

Achievement Levels	1	2	3
Math (x1)	Student shows little understanding in organizing, and representing different information in categories.	Student shows some understanding by organizing and representing different information in categories.	Student shows excellent work in understanding, organizing, and representing different information in categories, including accurately expressing number of tens and ones in two digit numbers.
Science (x1)	Student demonstrates little understanding of the uses of plants and why plants are important to people.	Student demonstrates some understanding of the uses of plants and why plants are important to people.	Student demonstrates an understanding of the uses of plants and why plants are important to people.
Participation (x1)	Student shows little interest or leadership in home activity.	Student shows some interest and leadership in home activity.	Student shows interest and leadership in home activity.

4. Plant Dissection

Students will be grouped together into groups of 3 or 4. Give each group a 6"-8" potted plant that has been removed from the dirt to expose the roots. Let them examine the basic parts of the plant; roots, stem, leaves. Discuss the job of each part in helping the plant survive. Then ask how the plant becomes a plant, how does it begin? Introduce them to seeds. Your class discussion will need to include how this plant is similar or different from other plants. Are new plants different from adult plants? If so, how?

- What do the parts of the plant look like?
- How does a plant start?
- How do the roots of a plant grow?
- Why are plant roots important?

Plant Dissection - From Seed to Plant

Achievement Levels	1	2	3

Achievement Levels	1	2	3
Achieve Connection (II) (x1)	Does not demonstrates an understanding that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.	Somewhat demonstrates an understanding that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.	Mostly demonstrates an understanding that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.
Group Participation (x1)	Student is not engaged and does not actively participate in class and/or group activity.	Student is somewhat engaged and somewhat participates in class and/or group activity.	Student is very engaged and actively participates in class and/or group activity.
Life Science and Seeds (x1)	Students shows little understanding that seeds and young plants are very small when growth begins.	Students shows some understanding that seeds and young plants are very small when growth begins.	Students shows understanding that seeds and young plants are very small when growth begins.

5. Story Book

Write and illustrate a picture book showing how a seed becomes a plant. Be sure you start at the beginning and show each step to the end. Make sure you include a picture showing what happens at each stage. When you are finished, exchange with other groups and read theirs. This story book may be sold at the store.

- How is a seed different from a plant?
- How does a seed become a plant?
- What does a seed need to grow?

Story Book - From Seed to Plant

Achievement Levels	1	2	3
Life Science and Seeds (x1)	Students shows little understanding that seeds and young plants are very small when growth begins.	Students shows some understanding that seeds and young plants are very small when growth begins.	Students shows understanding that seeds and young plants are very small when growth begins.
Plant Structure (x1)	Does not demonstrates an understanding that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.	Somewhat demonstrates an understanding that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.	Mostly demonstrates an understanding that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.
Story Book (x1)	Drawings and pages do not include labels or details that highlight features.	Drawing and pages include some labels and details that highlight features. The details are relatively clear and easy to identify.	Drawings and pages include excellent use of labels and details that highlight features. The details are very clear and easy to identify.
Content and Focus (x1)	Book does not show much focus and the information is disorganized.	Book has some focus and some information is organized.	Book shows excellent focus and the information is very organized.

6. Planting Seeds

For this task, the students will be planting seeds. Students will need a small clear cup filled with dirt, two seeds, water, and a popsicle stick for labeling. Plant seeds and place them near a window or outside if weather permits. After seeds are planted, students will need to observe and record the plant growth. Each day you will make notes and draw pictures in your notebooks describing what the weather is like, how much water you gave your plant, and how the plant is changing. At various times during the plant's growth, have a discussion about how your growing plant is similar or different from the same kind of adult plant. Each notebook will need to include a brief summary of the growth process your seed went through in order to become a plant.

- How do you plant seeds?
- What do seeds need to grow?
- How fast can a seed grow?

Planting Seeds - From Seed to Plant

Achievement Levels	1	2	3
Plant Structure (x1)	Does not demonstrates an understanding that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.	Somewhat demonstrates an understanding that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.	Mostly demonstrates an understanding that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.
Life Science and Seeds (x1)	Students shows little understanding that seeds and young plants are very small when growth begins.	Students shows some understanding that seeds and young plants are very small when growth begins.	Students shows understanding that seeds and young plants are very small when growth begins.
Participation (x1)	Student is not engaged and does not actively participate in class and/or group activity.	Student is somewhat engaged and somewhat participates in class and/or group activity.	Student is very engaged and actively participates in class and/or group activity.
Observations (x1)	Student shows little evidence of notes or observations on plant growth.	Student shows some record of notes and observations of plant growth.	Student shows excellent record of notes and observations of plant growth.

7. Journal Prompt

suggested final product:

Tell me about how the different parts of a plant (roots, stem, leaves or flowers) can help a plant to survive and grow.

- What are the important parts of the plant?
- How do the parts of a plant help it grow?
- How can people help plants grow?

Journal Prompt - From Seed To Plant

Achievement Levels	1	2	3
Conventions (if journal response is written) (x1)	Few sight words are spelled correctly and lacks phonetic construction of unknown words. No capitalization or punctuation used.	A majority of sight words are spelled correctly. Demonstrates an attempt at phonetic construction of unknown words. Minimal capitalization and/or punctuation are used.	All sight words are spelled correctly. Demonstrates success in phonetic construction of unknown words. Some correct capitalization and punctuation.
Content (response can be dictated orally) (x1)	Response contains a limited amount of accurate, factual information.	Response contains some accurate, factual information about the topic.	Response contains mostly accurate, factual information about the topic.
Science (x1)	Does not demonstrate an understanding that plants have different parts (roots, stem, leaves or flower) that help them survive and grow.	Somewhat demonstrates an understanding plants have different parts (roots, stem, leaves or flower) that help them survive and grow.	Mostly demonstrates an understanding that plants have different parts (roots, stem, leaves or flower) that help them survive and grow.